COST and MANAGEMENT

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Mr. Moller received his degree Doctor Juris from the Law and Political Science Faculty of the University of Prague, and was for some time, Secretary to the Management of the Bohemian Union Bank. After coming to Canada he joined the staff of Geo. A. Touche & Co., and in 1945 he was admitted to the Institute of Chartered Accountants of Ontario. He is now Assistant Controller of Robertson Irwin Co. Ltd. This is the second article on this subject contributed by Dr. Moller to Cost and Management.

Mr. Barfoot is a frequent contributor to the pages of Cost and Management. For a number of years he was Cost Accountant at Galt Metal Industries, and more recently he was appointed Plant Accountant and Office Manager of the Sarnia Division of Fiberglas Canada Limited. In 1945 he passed his final examinations and was admitted to Registered Membership in the Society of Industrial & Cost Accountants of Ontario.

Mr. Boutin is Plant Cost Accountant of the Torrington Company, Torrington, Conn., and formerly was Assistant Treasurer, New England Shipbuilding Corp. He is Director of Special Activities, Waterbury Chapter, N.A.C.A., and his article has been made available to Cost and Management through the courtesy of the National Association of Cost Accountants.

REGULAR DEPARTMENTS

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SOCIETY NOTES

FERNIE TROPHY STANDINGS

The Chairman of our Membership Extension Committee, Mr. Charles Warnes, is pressing very hard to reach the objective of 3,150 members by April 30, next. That progress has been made is evidenced by the fact that our membership has increased from 2,439 at April 30 to 2,816 at November 30, a gain of 377. We are now entering upon the second half of our activities for the season with high hopes that our objective will be realized.

The following are the chapter standings for the Fernie Trophy.

	Basic Points	Senior Mem.	Stud. Mem.	Point Increase	% Increase
Victoria	20	—1	26	24	120.0
Vancouver	192	6	50	62	32.3
Fort William-Port Arthur	178	11	34	56	31.5
St. Maurice Valley	68	1	17	19	28.0
Edmonton	160	6	31	43	26.9
Calgary	161	—0	41	41	25.4
Kingston	52	4	5	13	25.0
Bay of Quinte	29	3	1	7	24.1
Lethbridge	32	1	5	7	21.9
Niagara	79	4	8	16	20.3
Hamilton	371	7	60	74	19.9
Quebec City	177	—9	44	26	14.7
London	91	3	6	12	13.2
Kitchener	131	3	10	16	12.2
Toronto	445	9	21	39	8.8
New Westminster	30	—0	2	2	6.8
Peterborough	62	—0	2	2	3.3
Windsor	151	2	1	4	2.6
Ottawa	95	—0	1	1	1.0
Regina	83	—2	4	—0	—.9
Trois Rivieres	135	—2	2	—2	—1.5
Montreal	541	—21	17	—15	—2.8
Winnipeg	133	—0	—7	—7	—5.3
Kent County	44	—2		—4	—9.1
Eastern Townships	84	—4	—1	—9	—10.7
(New Chapter) Saskatoon	30	4	2	10	33.3

NEW FEATURE IN THIS ISSUE

In this issue we are pleased to introduce a new feature in the form of a Question and Answer Service. This service has been rendered by the Society for many years, and it is now felt that these questions which have general interest should be published with their answers in Cost and Management. All members are invited to contribute to this department either by submitting problems or by commenting on any of the answers given.

A Message from Our President

HEAD LIGHTS OR MERE TAIL LIGHTS?

Trains, automobiles, even airplanes are equipped with what is termed headlights to enable drivers to proceed safely and at reasonable speed towards their respective destinations. No night travel would be possible without them. They also carry tail lights, not so much for their own protection, but rather for the protection and guidance of others travelling in the same direction.

Business is very much like vehicles; it must make progress, otherwise it stagnates and becomes an obstruction in the path of progress. In order to move forward, Business, through Management, depends on head lights. Past experience, very often acquired by the trial and error method, is the tail light of business enterprise. However useful that experience is, no definite progress can be made unless that knowledge is used as a lesson and a guide towards better and bigger achievements. The need for constant revision of lessons of the past in the light of the future possible developments is ever constant.

Here is where the qualified Cost or Industrial Account can bring a worthwhile contribution toward the reduction of manufacturing or distribution costs of all kinds of manufactured goods. Instead of being a mere compiler of figures and facts pertaining to past deeds, he will use his background and experience in helping Management formulate production schedule and policies for the future. In that sense, he can be a search light, or at least a Head Light in business.

Let us prepare ourselves to play that most important part in our free enterprise economy.

CHARLES P. DUMAS,
President.

FIRST WOMAN ADMITTED TO REGISTERED MEMBERSHIP IN S.I.C.A.

To Mrs. Anne Marie Boyer, of Montreal, goes the honour of being the first woman to receive the certificate as a Registered Industrial and Cost Accountant.

This outstanding event in the history of our Society took place on December 8, at a meeting of the Montreal Chapter, when Mrs. Boyer was presented with her certificate by Mr. A. V. Harris, Chairman of the Educational Committee, in a ceremony befitting such an important occasion.

Mrs. Boyer, who is a cost accountant at National Breweries Ltd., achieved this distinction after six years of study through the evening lecture classes at McGill University and one year in the preparation of her thesis. This is no mean accomplishment for a woman who has, at the same time, maintained a home for her four children. Our heartiest congratulations are extended to Mrs. Boyer on the successful completion of her studies, and it is our hope that others of her sex will soon share with her the honour of having the R.I.A. degree.

New Members

EDMONTON CHAPTER

J. B. D. Wilson, 11433-80th Avenue, Edmonton

HAMILTON CHAPTER

H. R. Clark, The Steel Co. of Canada Ltd.
J. H. Barbett, Canadian Westinghouse Co. Ltd.
R. R. Ellis, Remington Rand Ltd.

KENT COUNTY CHAPTER

Eric Brown, American Pad & Textile Co. Ltd., Chatham

KINGSTON CHAPTER

William Droniuk, Canadian Industries Ltd.

KITCHENER CHAPTER

I. R. Ostic, Beatty Bros. Ltd., Fergus
G. L. Sargent, Beatty Bros. Ltd., Fergus

LONDON CHAPTER

W. V. Metzger, 600 Walter Street, Woodstock
A. G. Waterman, James Cowan & Co. Ltd., London

MONTREAL CHAPTER

Louis Rome, The Singer Mfg. Co. Ltd., St. Johns
Jacques Raymond, C.A., Raymond, Chabot & Cie
I. N. P. Jackson, Sandoz Pharmaceuticals Ltd.
R. M. Collier, Peterson Residences, Lachine

NIAGARA CHAPTER

James B. Brown, Welland Electric Steel Foundry Ltd., Welland
William G. Robinson, Muir Bros. Dry Dock Ltd., Port Dalhousie

OTTAWA CHAPTER

Arthur B. Graham, B. Com., Continental Paper Products Ltd.

PETERBOROUGH CHAPTER

J. L. Ireland, H. B. McGinness Ltd.

REGINA - MOOSE JAW CHAPTER

W. Kowalchuk, Army & Navy Dept. Store, Regina

SASKATOON CHAPTER

R. E. Grabinsky, Saskatchewan Federated Co-op. Ltd.

ST. MAURICE VALLEY CHAPTER

Mrs. Therese Pare, John Lewis Industries Ltd., Grand'mere

TORONTO CHAPTER

D. J. Drysdale, C.P.A., Harris Lithograph Co. Ltd.
K. Smyth, A.C.W.A., Fittings Limited, Oshawa

VANCOUVER CHAPTER

B. E. Gillham, British Columbia Pulp & Paper Company Limited

VICTORIA CHAPTER

Paul Williams, Western Heating Products
J. E. Anderson, Western Heating Products
F. G. Bridges, Jr., Thomas Plimley Ltd.

NON-RESIDENT, ALBERTA

Robert Bracko, Mountain Park Coals Ltd., Mountain Park, Alberta

NON-RESIDENT, BRITISH COLUMBIA

C. Walker, Johnston National Storage Ltd., Westview, B.C.
W. B. Greer, Cornwall Canning Company, Summerland, B.C.

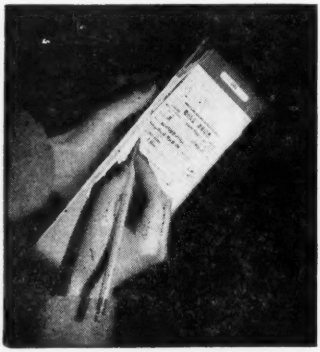
NON-RESIDENT, ONTARIO

C. G. Flower, N.B. Telephone Co., Saint John, N.B.

N.C.R. INTRODUCES THE SLIP-PAK

New Portable Forms-Holder Enables Orders to be Recorded and Filed on Spot.

A new benefit to salespeople deliverymen, receiving clerks, collectors and estimators is now on the market, produced by The National Cash Register Company of Canada Limited.



The new National Slip-Pak is a portable forms-holder that slips into coat or jacket pocket. It holds up to 50 sets of triplicate forms of any type desired.

This National Slip-Pak is of aluminum construction and weighs only 12 ozs. fully loaded. Its operation is extremely simple. When loaded with triplicate forms, all the salesman or other user does is to slide the lid open, flip the top set of forms into writing position, close the lid and write. The lid can be extended for use as a hand-rest when writing at bottom of forms. When the order or record has been written the user's copy can then be filed in the convenient filing compartment which is part of the National Slip-Pak.

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Chapter Notes

BAY OF QUINTE

The program of the December meeting was in keeping with the festive season in typical Christmas surroundings at the Belleville Shrine Club. Mr. John Buchan, Works Manager of the Bakelite Corp. of Canada Ltd., gave the members an insight into the Bakelite Industry.

FORT WILLIAM - PORT ARTHUR

About 60 members of the Fort William and Port Arthur Chapter of the Ontario Society of Industrial and Cost Accountants enjoyed a dinner dance last night at the Highland Inn, Port Arthur. Occasion was the annual Ladies' Night.

Following the dinner, D. R. Harrison showed films of the recent Dominion convention of the Society at Banff, Alta., at which several local members were present. Chairman for the evening was C. D. Henderson, who welcomed members, guests and their ladies.

LETHBRIDGE

The Lethbridge Chapter of The Society of Industrial and Cost Accountants held its December meeting on Thursday, December 15th, at the Henderson Lake Golf Club House.

This was the annual Christmas party, at which the members entertained their wives and lady friends at dinner. The guest speaker for the evening was the Rev. G. M. Ward, who spoke on humor and its place in everyday life.

Games completed the evening's entertainment.

ST. MAURICE VALLEY

On Tuesday, December 13th, Mr. Eric Taylor, Assistant Manager, Industrial Relations Department, C.I.L., addressed the Chapter at the Laurentide Inn, Grand'Mère. As his subject, Mr. Taylor took "White Collar Unions", and dealt very informatively on this comparatively new plan of industrial relations. Most interesting was his discussion of the formation of this type of union, and the actions of management that would provide "fertile ground" for their installation in any form.

The speaker was introduced by Mr. Honbrook and thanked by Mr. Fred Gurr.

TORONTO

Thursday afternoon, December 8th, members of the Toronto Chapter journeyed to Woodbridge, Ontario, for a plant visit at Robinson Cotton Mills Limited.

Mr. W. W. Robinson, President and Managing Director, gave a very interesting and informative talk on "Cotton in Industry", following an excellent dinner provided by the company. Everyone came away feeling well repaid for having attended and convinced that the cotton industry in Canada is one in which we can take great pride.

Current Literature Digest

By W. W. HENDERSON, R.I.A.

MONETARY VS. ECONOMIC VALUES, by Dundas Peacock, The Controller, November 1949.

This is another article dealing with the current contention—should reported profits be adjusted to current economic values. The author aligns himself definitely on the side of the "nays".

That profits to-day in an economic sense are illusory, the author admits; but the stewardship of corporate management is limited to monetary values—not economic ones. If management were to be held responsible for the maintenance of the economic worth of corporate investment, then it would be equally logical to expect the government, when repaying bonded debt, to adjust settlements in the light of the current purchasing power of the dollar. Similarly, it is definitely not the function of the Accountant to convert monetary facts into economic ones. That is and must remain the function of the economist.

Mr. Peacock entertains a rather novel view on depreciation reserves. The normal view is that the cost of fixed assets should be absorbed into operating costs over the useful life of the assets. This means a definite charge yearly (on a straight line basis or otherwise) whether or not an operating profit exists.

Mr. Peacock feels that in buying a new machine, the business man does not expect that its facilities will be productive ratably over its entire life. Instead, he generally requires that savings resulting from the use thereof will be such that he will be enabled to recover his investment in a relatively short time—say 3 or 5 years.

Now, if that is the case, why not an appropriation by the directors out of annual profits (after the reserve for income tax liability has been properly stated) to cover such recovery of investment in property, plant and equipment?

The statement of operation would then show:—

Revenue from sales, services and investments		xxx
Revenue, etc.		xxx
Deduct		
Operating costs	xxx	
Provisions for income taxes	xxx	xxx
Net revenue from operations		xxx
Deduct		
Appropriation for recovery of investment in property, plant and equipment		xxx
Net profit for year		xxx

Income tax computation of course provides for the maximum depreciation charge possible of assessment against taxable income.

Provision may be made in Cost estimate forms, used for price fixing purposes, for the inclusion of a charge for "fixed property usage". This brings depreciation into full view during any pricing—but it is not viewed as an annual expense.

No appropriation is made in a loss year. The idea—this appropriation is directed towards recovery of investment. And you can't "recover" something out of "nothing".

MEASURE OF PRODUCTIVITY—INTERIM REPORT, issued by the Joint Committee of the Institution of Product Engineers and the Institute of Cost and Works Accountants, December 1949.

In November 1948 a one-day conference was held in London, England, and was attended by many members of the above-mentioned groups. The subject was "Devising means of measuring Comparative Productivity." The question of productivity was considered to be one of national importance; and the joint committee grew out of that one-day affair. Considerable research has taken place since then, and the report above captioned presents some of the deliberations and interim conclusions reached.

The report will make interesting reading for Canadian business men and for cost accountants in particular. The magnitude of the task will strike the average cost accountant at once, and some cynicism may be expected as to the possibility of the project becoming a wholly successful one. But few will doubt that recognizable progress is likely to be made when the research is identified with such reputable and able sponsorship.

As to the report itself—it points out that research comparisons have been made on a "process" rather than a "product" basis.

Much of the essence of the report lies in the expansion of the following themes:—

(a) "The lack of knowledge of machine utilization in British industry. It is clear that machine utilization is low, and that if this were improved it would make a significant contribution to increased productivity."

(b) "The lack of cost and statistical information available at supervisory level. Very often through poor presentation and lack of understanding much of the existing information is ineffective."

(c) "The serious lack of agreed principle in the application of time study methods. Present time study standards suffer in most cases from serious deficiencies for the purpose of comparison between departments and firms. If uniformity were introduced into the methods of arriving at such standards, valuable data would be available."

COST CONTROL, by F. Clive de Paula, A.C.A., A.C.W.A., The Cost Accountant (Eng.), October 1949.

This article describes in adequate detail and in a wholly orthodox manner the workings of a standard cost system of industrial accounting, to which is applied flexible expense budgets. Presented are explanations of different kinds of variances arising from performance different than that planned, as well as suggested uses to which this knowledge may be directed in correcting future performance.

It is this use of variance information that contributes the "Control" mentioned in the title of this article.

CRITICAL COMMENTS ON COST ACCOUNTANTS, by G. L. Macdonell, B.Com., The Australasian Institute of Cost Accountants, No. 28, September 15th, 1949.

The author takes the view that too many times our "Cost systems" are too elaborate and expensive to operate when compared with the actual use to which they are put. A cost accounting system can't substitute for managerial quality, and if your management is not "'report conscious", waste of effort and money probably will attend the institution of any elaborate reporting procedures.

The idea of monthly reports is another thing about which he is querulous. Where they are fully used and contribute directly to profit control, he doesn't quibble. But so often he suspects they are reservoirs for expense and effort from which profit or benefit fails to emanate. "The system," he says, "was so elaborate that a large proportion of the Cost Accountant's time was required merely for the actual writing of the monthly statements—so big a proportion of his time, in fact, that after he had corrected obvious errors and attended to his other duties, he had no time left for the thorough analysis and interpretation of the results disclosed."

Changes of standards for reflection of current costs in the matter of price fixing is another practice which the author questions.

OTHER ARTICLES OF INTEREST TO INDUSTRIAL AND COST ACCOUNTANTS

The Function of an Industrial Accounting Department in a Manufacturing Organization

by F. Leadbetter, F.C.W.A.—The Cost Accountant, Nov. 1949.

Accounting for Fixed Assets

by David Williamson, A.C.A., A.C.W.A.—The Cost Accountant, Nov. 1949.

Depreciation and Plant Registers

by O. R. MacDonald, A.I.C.A.—The Australian Accountant, Sept. 1949.

Preparation, Form and Content of Managerial Reports Under a Standard Cost System

by A. D. Richmond, F.C.A.A.—The Australasian Institute of Cost Accountants Cost Bulletin, Oct. 15, 1949.

The Importance of Developing Distribution Costs

by Warren G. Bailey—The Controller, Nov. 1949.

ADDRESSES OF PUBLICATIONS

The Australian Accountant, 430 Bourke Street, Melbourne, Australia.

The Australasian Institute of Cost Accountants Cost Bulletin, Bank House, 11 Bank Place, Melbourne, Australia.

The Controller, 1 East 42nd St., New York 17, N.Y.

The Cost Accountant, 66 Portland Place, London W-1, England.

Factory Management and Maintenance, 330 West 42nd St., New York 18, N.Y.

Questions & Answers

The Society conducts a question and answer service for the benefit of its members. Questions which involve industrial and cost accounting practice are submitted to a group of members for answers. It is proposed that questions and answers of general interest be published in Cost and Management and the following is one of those recently submitted.

TREATMENT OF PENSION PLAN EXPENSE

QUESTION

Our Company instituted an employee's pension plan on August 1st, last, which is being administered by a firm of Actuaries and the funds taken care of by one of the leading trust companies.

On going over a number of annual statements of companies who carry employee's pension plans, I notice that a great number of companies show their pension plan contributions as a separate item on their P. & L. Statements.

We propose following the same practice, but we also believe that such expense should be first included in production costs to the extent that it applies to mill workers, the balance representing portion applicable to administrative staff, this rule to apply to past service as well as future service contributions paid by the company.

At the end of the fiscal year, all Company pension plan contributions made during the year will be extracted from mill cost and administrative expense and shown on the annual P. & L. Statement as a separate item.

We also believe that the annual instalment for past service benefits, amounting to well over $100,000 and payable each August for a period of 10 years, should be accrued on a monthly basis so that such expense may be picked up gradually as the year progresses, rather than throw an amount of such proportions against the month of August in one lump sum.

Will you kindly advise if the above proposals for the handling of our pension plan conform to accepted practice and, if not, would you let me have any information you may have on this question.

REPLY No. 1

The annual cost of our pension plan is a charge against P. & L. and is shown as a separate item on our annual P. & L. Since there is no contract agreement with our union, we do not accrue a liability over the working life of the employee but rather the money remains part of the working capital of the company.

Only if the employee makes a contribution, do I feel that the funds should be invested with a trust company. As long as it is wholly contributed by the company, the funds should remain in the company's treasury. It would be possible to set up a special reserve transferring the necessary accrual from surplus each year.

We do not consider this charge as a portion of our factory burden but rather it is thought of as an administrative expense.

If the day comes when there is an employee or a government contribution towards old age pensions, we may have to change our methods.

REPLY No. 2

It seems to me that the expense of pension plans should be allocated directly to the departments concerned, in a similar manner to health and unemployment insurance and workmen's compensation. The pension plan contributions in respect of factory workers, obviously increase the cost of a product and are a direct charge to the factory.

I note that $100,000. being annual instalment for past service benefits is payable each August for ten years. This should be accrued on a monthly basis, in exactly the same manner as bond interest is accrued monthly.

I think it is an excellent idea to show the total amount paid on the pension plan by the company as a separate item on the P. & L. statement, because it shows the employees exactly what the plan is costing and may be an important point in management labour relationships.

REPLY No. 3

We see no objection to including the employer's portion of this expense partly in manufacturing expenses and partly in administration expenses. It is probable that it will be impossible insofar as the manufacturing expense portion is concerned to allocate this directly to productive costs so that it would be classified as a manufacturing overhead item.

There is difference of opinion as to whether the expense which is applicable to past services should be charged, along with expense applicable to current services, against the productive costs. It is obvious that such a procedure would tend to distort current costs and the majority of companies would not wish this to happen. Theoretically, past service contributions should be charged to Surplus Account although as such contributions can be claimed over a ten year period for tax purposes, the income tax provision applicable to the year would include the pension contributions which might be shown in Surplus Account. We agree that the instalments payable in August of each year should be accrued on a monthly basis if it is proposed to include the instalments in the charges to operations.

In particular cases which I have in mind we did not charge to manufacturing expenses the employer's part of pension expense but showed it as a separate item in the Profit and Loss Statement and although this is not all claimed for income tax in the year in which charged, we did not endeavour to segregate the proportion applicable to current services from past services. I suppose that many companies are interested in showing the shareholders and employees the cost to the company of such pension plans and therefore, are very anxious to show this figure separately on their financial statements.

The New Income Tax Regulations on Allowances of Capital Cost (Depreciation)

By GEORGE MOLLER, D. Juris, C.A.

In this article, Dr. Moller reviews the regulations defining depreciation allowances for income tax purposes as published on Dec. 22nd, 1949. The author offers his interpretation of the regulations from the standpoint of the industrial accountants and also outlines very carefully the effects upon accounting for depreciable assets. A helpful feature is a comparison of the basic principles governing previous practice with the new regulations.

The Canada Gazette of December 22, 1949, in an extra issue No. S-52 promulgated P.C. 6385 the Income Tax Regulations' parts **XI, XII, XIII,** and **XIV** and schedules B, C, D, and E to the Regulations defining the allowances to be granted to taxpayers under Section 11 (1) (a) of the New Income Tax Act.

PRESCRIBED CLASSES

The leading feature of these regulations is the division of all depreciable assets of a taxpayer into twelve classes listed in schedule B to these regulations. Each class will be considered a separate entity for the purpose of computing allowable depreciation charges and also for the purpose of determining eventual taxable gains or allowable losses to the taxpayer. Non-taxable capital gains will still be ascertained though for each individual item in each class in each taxation year.

The segregation of depreciable assets into classes is nothing new to the Canadian taxpayer, but under the practice up to and including 1948, this segregation was made according to the rate of depreciation claimed with an added sub-division of each such group according to the purchases for each year, whereas under the new regulations certain classes have the same depreciation rate, as for instance class one and class two which both rate now a four percent depreciation allowance.

Section 1101 of the regulations requires, where more than one property of a taxpayer is described in the same class in schedule B and where the properties were acquired for the purpose of gaining or producing income from various businesses,

a separate class be established for each business. My understanding of this clause is that where one Company, for instance, has two textile Mills, the buildings of both Mills will not be lumped together in Class 3, but a Class 3 will be established for each Mill in the taxpayers' books and tax records.

RATES

The new rates applicable to the diminishing balances are generally about double the rates previously allowed as maximum by the Department, for example, brick buildings, previously with a depreciation rate of two and one half percent, are now in Class 3 with a depreciation rate of five percent. The rate for automotive equipment is thirty percent which amounts to the following allowances based on the original cost of the equipment (or depreciated 1948 book value for assets acquired before 1949): First year, 30%; second year, 21%; third year, about 15%; fourth year, about 10%, leaving for depreciation 24% on the beginning of the fifth year. This compares with a residual book value of about 40% for light usage equipment and 15% for heavy urage equipment under the practice up to and including 1948.

ADDITIONAL CLASSES

Schedule B lists, in addition to the aforementioned twelve classes covering all depreciable property, three more classes for the purpose of depreciation, i.e., class thirteen for lease hold interests, class fourteen for patents, franchises, concessions, or licences and class fifteen for timber limits, if the property will be of no further use after all merchandisable timber has been removed from the limit.

Schedule C is, in general, a restatement of the regulations for depletion allowance for timber limits which were in force for 1948. Schedule D gives the depletion calculation for property in class fifteen. Schedule E finally regulates the depletion allowance for Mineral Mines, again a restatement of the general contents of the regulations in force for 1948.

HARDSHIP RELIEF

Sub-section 2 of section 1100 in part XI, is a hardship clause for the 1949 taxation year only, allowing the taxpayer the choice between applying the new depreciation rate on the diminished capital cost or continuing the straight line method used

heretofore, for this one year. There is no indication that this hardship relief clause will be continued after 1949.

RECOVERY PRINCIPLE

Sub-section 3 of section 1100 gives the taxpayer who has in a taxation year otherwise than on death disposed of all property of a prescribed class, the right to write off the undepreciated capital cost to the taxpayer of property of that class. Thus the taxpayer will be allowed to recover the capital cost to him of each class of property, but the final clearing will only take place when no property of this class is left in the ownership of this taxpayer.

Logically, the taxpayer having studied the regulations so far is looking for the counterpart to this clause under which the tax department will be entitled to recapture any over-depreciation allowed during the time in which the taxpayer has owned property of a specific class. Order-in-Council P.C. 6385 does not deal with the so-called recapture provision. In order to find this provision, the taxpayer has to go back to the Income Tax Act which has been amended in the last session of Parliament (Section 7, Chapter 25, Statutes of 1949, assented to December 10, 1949, applicable to the 1949 and subsequent taxation years), and contains now, section 20 with the heading —Depreciation, previously not expressly dealt with by the Act.

Again the Act deals with depreciable property of a prescribed class and treats all such property as one entity. If all the property of a prescribed class has in a taxation year been disposed of and the proceeds of this disposal exceed the undepreciated capital cost to the taxpayer, as of the beginning of the year of disposal i.e., the diminished balance at the beginning of the year, the lesser amount of either the whole excess or the difference between the diminished balance and the total original cost to the taxpayer, will be added to the taxable income of this taxpayer for this year. This recapture provision leaves to the taxpayer as non-taxable capital gain only any excess of the disposal proceeds over the original cost of the whole property of any prescribed class.

The meaning of Section 20 ITA in connection with Section 8, 1949 Statutes, is not easily understood. It takes considerable effort to penetrate to the following explanation of the complicated construction of sub-section (1) of the latter section:

If assets of a whole prescribed class are sold with proceeds in excess of their written-down book value, there is a difference between assets acquired before 1949 and those acquired since. The first category of assets is "deemed to have been acquired" at their 1948 book value and, therefore, the excess of proceeds over the 1948 book value is considered a capital gain, tax free in the taxpayer's hands with the exception of any assets for which special, extra or double depreciation had been allowed. Any depreciation allowed in excess of normal rates before 1949 is treated like depreciation allowed under the new regulations and, therefore, when recovered through disposal must be credited to the depreciation reserve, thus disqualifying as capital gain. The second category (assets acquired in 1949 and later) is treated differently; only the excess of proceeds over actual original cost is considered capital gain.

RECORDS

If my understanding of this clause is correct, every taxpayer will have to keep, at all times, in his own interest, a record of the original cost of all items of his property in each prescribed class. According to sub-section 3 of section 20, paragraph (a) "undepreciated capital costs to a taxpayer of depreciable property" of a prescribed class as of any time means the capital cost to the taxpayer of depreciable property of that class acquired before that time minus the aggregate of:

(1) the total depreciation allowed to the taxpayer for property of that class before that time, and

(2) for each disposition before that time of property of the taxpayer of that class the least of

- (a) the proceeds of disposition thereof,
- (b) the capital cost to him thereof, or
- (c) the undepreciated capital cost to him of property of that class immediately before the disposition.

TRANSITIONAL PROVISIONS

This definition would make the recapture provision retroactive beyond the first of January 1949. In his budget speech, announcing the proposed changes in depreciation practice, the Minister stated that the so-called add-back or adjustment will be limited to the written down value at the end of 1948. To fulfill this promise, transitional provisions re this depreciation have been promulgated by section 8, chapter 25, 1949 statutes,

which were not included in the Income Tax Act. This section 8 introduces the legal assumption (" . . . shall be deemed") that for purposes of recapture all taxpayers have acquired their depreciable property on the first of January 1949 at a cost equal to the actual capital cost minus the aggregate of the total amount of depreciation for such property in their ownership at the commencement of 1949 since the commencement of 1917, computed in accordance with the practice of the Department of National Revenue in ascertaining the taxpayers' income for the purpose of the Income War Tax Act. This would roughly equal the depreciated book value of each class of the taxpayers depreciable assets, as per the Department's records, taking into consideration only normal depreciation and excluding all reserves created by special depreciation, extra depreciation or allowances in lieu of depreciation, and half of the reserves created through so-called double depreciation.

ABNORMAL DEPRECIATION

The Income War Tax Act, Section 6, Sub-section 1, paragraph (n) and analogously the original wording of Section 11, Sub-section 5 of the Income Tax Act provided for recovery of any extra depreciation, i.e. the amount over and above normal, if the asset was disposed of at a profit through re-opening the assessments for the years in which the special depreciation was allowed. This has now been changed by the transitional provisions for all sales made after commencement of the 1949 taxation year by treating all deductions allowed as "special depreciation" or "extra depreciation" for property in the ownership of the taxpayer at the commencement of the 1949 taxation year and similarly one half of the so-called "double depreciation", as deductions allowed under Section 11 (1) in computing income for a taxation year before the 1949 taxation year.

That means, if my interpretation of the involved clause (d) of sub-section 1 of Section 1100 is correct, that the taxpayer will be entitled to depreciate property, for which he is entitled to double depreciation under the previous regulations, in a two-fold way:

(1) he will apply normal depreciation on the dimminishing balance method (or in 1949 optionally on the straight line method) and (2) he will accumlate depreciation at half the

double rate (i.e. at the previous normal rate) based on the original cost, but not more than the remaining undepreciated cost of the property.

It will be necessary, therefore, to keep records for property entitled to double depreciation showing the following data:

A	B	C	D
Item (asset)	Original Cost	Normal Depreciation Reserve	Original Cost less normal Depreciation Reserve

E	F	G	H
Normal Depreciation Provision	Additional Depreciation Reserve (Under Double Depreciation Regulations)	Additional Depreciation Provision	Remaining Book Value

Additional sub-total columns could be inserted, if considered desirable.

It is not clear whether the taxpayer will be still limited in applying double depreciation to 80% of the original cost as prescribed by previous regulations, or whether the new regulations over-ride this provision of the previous regulations.

I repeat: The depreciation, regardless whether special, extra or half of double, will be subject to recovery by the tax department in case of disposal of property at a price in excess of depreciated book value. For assets acquired in 1949 and subsequently, the excess of disposal proceeds over orginial cost, and for assets acquired before 1949, the excess of proceeds over original cost less *normal* depreciation up to and including 1948, remains tax free capital gain in the hands of the taxpayer. All normal depreciation starting with 1949, and all special, extra or half of double depreciation when recovered by disposal will be credited to the Depreciation Reserve of the prescribed class and thus reduce the undepreciated capital cost to the taxpayer which is the basis for the annual calculation of the depreciation allowance.

CORPORATIONS LIMITED TO BOOK PROVISIONS

Up to the moment of the issue of the new regulations, it was generally assumed that under the new procedure the tax-

payer would have the right to claim on his return the deduction of any amount from nil to the maximum allowance in respect of capital cost, regardless of the amounts set up on his accounts, and also regardless of whether his operations for that year resulted in a profit or a loss (see "Some Aspects of Income Taxation in Canada" by Charles Gavsie, co-ordinator and chairman of the executive, Dominion Income Tax Division, October 1949 issue of the Canadian Chartered Accountant, page 163). Apparently in the last minute the fiscalists in the department succeeded in inserting Sub-section 4 of Section 1100 into the regulations decreeing that incorporated taxpayers cannot claim more aggregate depreciation and depletion for any one year under the new regulations than shown on the financial statements presented to the shareholders for that year.

This is a heavy blow for the accountants who had hoped that in the future they would be allowed to set up on their books the amount of depreciation and depletion which *they* consider after careful examination to represent a fair amortization of capital costs over the useful life of any one asset. Unfortunately the quoted sub-section tends to perpetuate the malpractice in Canada of setting up as depreciation or depletion what the department allows. It may only be hoped that public opinion will voice a sufficiently strong protest against this sub-section to compel the department to rescind this totally unwarranted and unnecessary limitation of the taxpayer's rights. This provision will make it impossible for the incorporated taxpayer to continue his present method of taking depreciation and thus preserve continuity in the presentation of his financial statements. It will force the accountant, in addition to the depreciation expense among his manufacturing expenses, consistently calculated on the straight line method, if this provision should not reach the amount allowed under the new regulations, to introduce a separate additional depreciation provision bringing the total amount of depreciation charges to the maximum allowed under the new regulations. It may be assumed that such additional depreciation provision will be shown just before arriving at the total "profits before provision for income taxes." The reserve resulting from these additional depreciation charges as set up on the books should preferably be shown separately from the normally built-up depreciation reserves on the books.

It would be very timely if the accounting bodies in this country would agree on a uniform accounting procedure under the new regulations requiring the directors to show the shareholders clearly the difference in the operating results brought about by the change in the method of providing for depreciation and depletion.

ILLUSTRATION

The working of the diminishing balance method is basically simple. Let us take as an example a factory which had at the 31st December 1948 plant and equipment (not included in another class of Schedule B and therefore belonging into the prescribed class 8) with an original cost to the taxpayer of .... $100,000.

The Depreciation Reserve as per the Department's records pertaining to these assets amounted to	60,000.
The undepreciated capital cost to the taxpayer as of the end of the taxation year (31st December, 1948) of property of class 8, would amount to	40,000.
Let us further assume that there was a disposal of a machine during the year 1949 (at less than its 1948 book value) with proceeds of	2,000.
which has to be deducted from the above balance.	
This leaves	$ 38,000.
as basis for the allowance in respect of capital cost.	
The rate is 20%. The allowance amounts to	$ 7,600.
This would be less than 10% (the old rate) of the original cost. For 1949 the taxpayer would therefore have the choice between the two methods (ss. 2 of sec. 1100).	
In 1950 assuming that no disposal had taken place, but a new machine had been added at a cost of	$ 5,000.
the basis for the depreciation allowance at the end of the 1950 Taxation Year would amount to 20% of ($38,000 less $7,600 plus $5,000) i.e. 20% of $35,400 = ...	$ 7,080.
For 1951, no changes in assets assumed, the depreciation will amount to 20% of ($35,400 less $7,080 = $28,320 = ...	$ 5,664.

Let us assume now that the machine bought in 1950 for \$5,000 will be sold at the end of 1951 for (a) \$5,000, (b) \$6,000. In the case of (a) the full \$5,000 will be credited to the Depreciation Reserve for tax purposes, thus recovering for the tax department all the depreciation previously allowed on this machine but actually not needed. In the case of (b) again \$5,000 will be credited to the Depreciation Reserve but \$1,000 (excess over original capital cost) can be claimed as tax free capital gain in the taxpayer's hands.

A comparative schedule of depreciation charges was presented in "Costs and the New Depreciation Practice Announced by the Budget" in the September issue of "Cost and Management", by the writer.

COMPARISON TO PREVIOUS PRACTICE

As a contribution to the further clarification of the new depreciation practice, an attempt will be made to compare the basic principles governing the allowance of normal depreciation by the Department of National Revenue up to 1948, printed in italics, with the new regulations discussed in the foregoing paragraphs; I follow herein the presentation of these principles in Gilmour's Income Tax Hand Book, December 1947.

Depreciation must be set up on the books of account. This requirement is under the new regulations restricted to incorporated taxpayers which cannot claim more in the aggregate in every taxation year than provided in the financial statements presented to the shareholders. Unincorporated taxpayers will, in future, be unlimited in claiming more than is set up in their books.

Depreciation for one year only, will be allowed in any one fiscal period. It may be assumed that under the new practice the taxpayer will be free to write off the maximum rate of depreciation on the diminishing balance regardless of whether he has used this maximum rate in previous years or not. There will be no pro rata depreciation in future as sub-section one of section 1100 makes the rates set therein applicable to the undepreciated capital cost to the taxpayer as of the end of the taxation year..

A taxpayer may establish a rate of depreciation, but may not increase it at a later date, once established. Under the new regulation, no similar basic principle has been established i.e., the taxpayer will be at liberty within the limits set by the

maximum rates allowed, to vary the amount of depreciation taken for any one year. How far such a procedure would be reconcilable with good accounting practice is of course, another question open for discussion.

Having established a normal rate of depreciation, the taxpayer must claim at least fifty percent of this rate in any year. As indicated before, under the new regulations, no such principle prevails and the taxpayer is free for taxation purposes not to claim any depreciation in any loss year.

Adequate records of cost of assets and accumulated depreciation reserves must be maintained by taxpayer. The new regulations do not contain any principle of this kind, but section 114, sub-section 1 of the Income Tax Act states clearly that every person carrying on business shall keep records and books of account in such form and containing such information as will enable the taxes payable under this act to be determined.

In the past, the taxpayer was asked to segregate at least his total assets into classes according to the rate of depreciation claimed and then to sub-divide each such group further so that purchases for each year may be shown separately. The depreciation reserves had to be analyzed in a similar fashion. Where this method was followed, depreciation was allowed on each class according to the year of purchase until accumulated depreciation equalled the cost and as each year's purchases were fully depreciated they were eliminated from future calculations. *Under the new regulations* the taxpayer will be required to segregate his total assets into the *prescribed* classes one to twelve regardless of the year of purchase in order to determine the undepreciated capital cost to him as of the end of the taxation year of property of each prescribed class.

Previously taxpayers who were unable or unwilling to analyze their records according to different classes of assets and again according to year of purchase, but instead simply added new assets to existing cost and claimed depreciation on an ever increasing balance of cost, were required by the Tax Dept. to reduce the accumulated cost by the accumulated depreciation as soon as this depreciation equalled eighty percent of the cost of the assets and thereafter depreciation had to be calculated upon the residual twenty percent of cost, until the asset was fully depreciated. No analogous procedure will be allowed under the new regulations, but considering each prescribed class as a separate entity, the depreciation procedure

based on diminishing balances has some common features with the predescribed method.

Depreciation must be based on the cost of the asset. This principle has been maintained under the new regulations re-affirmed by section 20, sub-section 2, which prevents persons not dealing at arm's length, from arbitrarily changing the capital cost of property to the taxpayer. In these cases, the original cost to the original owner becomes the maximum basis for depreciation after being reduced by the depreciation allowed to him. Where the original capital cost has been reduced in one of the "not at arm's length deals", the difference is deemed to have been allowed to the taxpayer as depreciation allowance before the acquisition thereof by the taxpayer.

Where machinery is being operated at least double its normal operating time, the normal rate of depreciation may be increased by fifty percent and where the operating time is at least triple, the normal rate of depreciation may be increased by one hundred percent. Nothing in the new regulations could be construed to provide a similar increase in the depreciation allowance.

The very complicated old regulations dealing with special depreciation and double depreciation have lost their importance and meaning under the new regulations because for purposes of determining the capital gain in the case of disposal at more than the book value, the taxpayer is no longer entitled to normal depreciation on a depreciable asset, but required to forego any depreciation which proved not to be required in fact.

In simple language: In the future the taxpayer can consider as a non-taxable capital gain only the excess of disposal proceeds over the original cost of any one asset.

For this purpose, as explained before, "original cost" for assets acquired before 1949 means actual cost less depreciation allowed at normal rates up to and including 1948.

INTERPRETATION

This concludes the comparison between the previous practice and the practice as it may be expected to work under the new regulations. It has to be pointed out, however, that the new regulations, the newly worded Section 20 and the transitional provisions (Section 8) are couched in highly technical language obviously coined by lawyers without much regard for

the fact that these regulations will affect practically everybody in business for years to come. Only the application of the new regulations in practice will show up inconsistencies and ambiguities which are not obvious at first glance. No attempt has been made in this study to deal with exceptional or rare cases, as it is felt that this should be better left for a separate treatise.

It remains to be seen how the non-conforming provinces will treat depreciation of 1949 and following years for provincial corporation income taxation. Let us hope that they will follow the Dominion pattern and not force the plagued taxpayer to keep triple records on depreciation.

It is unfortunate that the new regulations were issued only on the end of the year to which they are applicable. Many taxpayers, with their business year ending before the calendar year, had their financial statements completed and issued before the regulations were promulgated. Sub-section (4) of section 1100 should not be enforced for 1949 in assessing these taxpayers and these corporations should be permitted to amend their returns, giving effect to the new regulations—regardless of their financial statements.

Generally speaking, one is tempted to question the point whether there were not simpler ways and means available to the Department to implement the basic idea of the taxpayer being entitled to the recovery of his total capital outlay, but not to tax free capital gains out of depreciation provisions. The burden on the accountant in carrying out the involved procedure may not be commensurate to the advantages ostensibly granted the taxpayer. Is it permissible to conclude this study naughtily with the quotation from Virgil:

"Timeo Danaos et dona ferentes"

which, in free translation, would read

"Beware of tax regulations though promising relief!"?

Do You Know Your Idle Plant Costs?

By N. R. BARFOOT, R.I.A.

This is a case study of accounting for idle plant costs in a plant manufacturing mineral wool for insulation. The author examines the two main causes for idle plant, and the accounting techniques for bringing them under effective management control. Unbalance in plant capacity is also brought to light.

The most carefully directed factories incur serious losses from time to time due to idle capacity. It is rather important that the Cost Accountant, through the various analyses that he makes of the economics of day to day plant operations, provide some data on this subject.

Regardless of the cause, if the frequency or duration of idle plant is excessive, it becomes an urgent matter for management. Cost accounting must be prepared, therefore, to examine these losses due to idle plant or equipment and in the ensuing analysis place responsibility.

Idle plant represents machines or equipment not in use and the direct loss occasioned thereby is the unabsorbed portion of fixed charges. Theoretically, therefor, the cost of idle plant is the fixed burden rate times the number of standard burden units lost during the idle time. In terms of standard cost accounting it is a capacity or volume variance which measures burden lost due to lack of production. This is distinct from the two other common overhead variances, namely, the expense or budget variance which measures the difference between actual and budget expenses for a period and thereby establishes and reduces all other variance calculations to standard rates, and is the overhead efficiency difference which measures costs arising from the difference in standard allowed machine or labour hours and the actual hours of production.

Since unabsorbed variable expense is not a cost of idle plant it is a cardinal point to determine what are fixed charges in your particular plant in order to get a true cause of idleness. In the glass producing plant which I am using as an example, certain repairs are of a fixed nature. Rebuilding of the glass melting tank which takes place approximately every 18 months is a provision set up in advance by prorating the cost of rebuild

into equal monthly charges on the operating budget. Other recurring repair expenses are set up in the same fashion. The nature of this operation of a glass tank and the attendant machinery needed to produce glass fibers requires fixed maintenance crew and in some phases, direct labor crews who must stand by during down time—all of which may be correctly classified as fixed expenses.

Having fixed on what portion of overhead can be used in idle plant costs, the question arises of what is understood by plant capacity.

Two broad conceptions exist, namely, capacity to sell and capacity to make.

The development of capacity to sell or capacity based on sales expectancy requires an extensive analysis of market trends for a long period ahead. Average sales for a number of past years are needed as a guide in developing an even pattern for the annual sales volume. The relative position of the business in its own field influences this sales quota. The capacity of a corporation to sell is, therefore, not an easy or a quick figure to establish.

Capacity to make decides at once that overhead rates will be based on full possible productive effort. This programme tends to steady standard or unit costs since the overhead element does not include any part of idle time capacity expense.

It is obvious also that costs of idle plant will be far more accurately set under this method.

Coming out of the above effect of utilizing capacity to make as the basis for burden rate setting, is a more consistent and stable valuation for inventory since there will be no part of true idle plant costs contained therein. Product cost relations as well as idle plant cost comparisons will be more significant over extended periods of time.

There are advantages to both methods and any decision made must be a careful one that takes into consideration the economics of your particular business, the balance or lack of balance in the factory equipment and the particular set of principles on which your cost or plant accounting is based.

The question of balance in factory equipment is an important one. Lack of sufficient machines at one stage of production operations may in subsequent operations force some equipment into idleness. The type of product begun in the

initial stages of a plant's operation may utilize less of later types of machines and introduce idleness due to product mix. Each plant under consideration will have to make arbitrary decisions under these arrangements as to what is or is not idle plant. A thought which could be of importance to management comes out of this in that the idle plant reporting may very well indicate to management that there is an unbalance and to such an extent that it is worth spending capital to remedy such unbalance.

The practical application of idle plant accounting is most interesting and the balance of this article will be devoted to a description of its operation in a plant producing mineral wool for insulation.

Basically, the process is as follows:

Sand: limestone and other chemicals are introduced into a glass melting tank as in any usual glass production plant. This molten glass flows into a machine from which glass wool fibres are drawn through some 6 bushings, as they are called, onto a conveyor section. The piled up fibres are bound together by chemicals sprayed on during the drop from the bushings to the conveyors. The combined fibres and chemical binders are then conveyed through curing ovens, baked into various thicknesses, cooled and conveyed through slicing saws and knives for sizing. The resulting pieces of insulation are then packaged and shipped out or stored.

The basis of overhead application in this plant, as often happens, determines the type of reporting needed in segregating out idle time. It was found that the controlling factor on production was the production of wool fibres at the bushing stage and that idle time in the first instance was any time in which none of these bushings were producing glass fibres or any time in which less than 16 of them were operating. Capacity here was understood as capacity to make for the excellent reasons outlined before and overhead rates were based on this full 16 bushing capacity.

A variation of the machine hour overhead application idea was used.

Burden was based on the bushing hour which meant 16 bushing hours per elapsed hour or 384 B.H. per 24-hour period. Thus the burden rate was total yearly expenses divided by 384 x 365. The normal production poundage output per hour

per bushing was known so it was easy to apply this overhead cost per bushing to standard costs which were based on a cost of 1000 pounds of glass wool packed.

An extensive study of idle plant causes was undertaken. It was decided that idle time occurred for two broad general reasons:

1. Lack of orders, which is non-controllable by the plant.
2. Down time of any other nature and controllable by the plant.

Upon further investigation it was also found that there were two types of down time controllable by the plant. These were:

(a) Scheduled Down Time
(b) Variable Down Time

The scheduled down times are listed as controllable by the plant but should be qualified as such. It is idle time which must occur at certain intervals, due to the nature of the plant operations and its products. The controlling factor is the speed and efficiency with which these changes are effected. This portion of down time since it is scheduled and is known, can very conceivably be included as a factor of Standard Cost Burden Application. It was decided, however, that in a new plant and with a new operation, we could expect a certain variation in the occurrence and frequency of the scheduled down times. By that I mean we knew that these particular down times would occur, but length of time between occurrences might vary considerably depending on our operating conditions. We did decide, therefore, in the beginning not to include the scheduled down time as a factor of Standard Costs but to draw out the entire picture of idle plant until such time as we were absolutely certain of the fixed frequency of the particular down times we were considering.

It might be of interest at this point to state that for idle plant reporting in attempting to decide on the scheduled down times, their frequency and the duration, it was quickly apparent that a great deal of advance planning by the use of gantt charts could not only establish these scheduled down times, but improve the performance of them. This is exactly what was done and some amazing savings were effected in the process. The important point is, of course, that the push for this planning and subsequent saving came through pointing out via the idle

plant reports the lost time and the high cost of the different idle plant factors.

I would suggest, therefore, that idle plant reports issued by the Accounting Department for factory management include all factors of idle plant, whether they are rigidly scheduled or variable. The control that results from showing up exactly what did happen on the down times and the comparison that may be made of actual down times with a budgeted time is of great importance and of the greatest possible use to management.

When the scheduled down time is finally fixed to such a degree that it may be included as a factor of Standard Cost and used for inventory valuation, I believe the idle plant report should be put out in entirety and include the costs of all causes of idleness.

The variable down time, which is the second part of the plant controllable down time, will vary a great deal both by plant and by periods. An analysis of the variable down time in our own particular plant shows a number of operations which recur from time to time but do not recur at stated intervals. They are, therefore, a sort of scheduled down time but not one that is measurable. There will be, as in any plant, a number of types of this down time, due to mechanical failure, electrical failure, material shortage and, of course, a miscellaneous group. The frequency of job change and setup time will be controlled to some extent by Production Planning in their daily order sequence of products to the factory. Their action in this regard will also be influenced by demands and requests of the sales division. This one factor might very well be a cause of excessive down time and engage the attention of management to no little degree especially when the plant is running close to full capacity. Mechanical and electrical failure and the other types of down time due to equipment breakdown, should be of particular interest to the Plant Engineering and Maintenance Crews whose business it is to keep the wheels turning. Material shortage, of course, as a factor of down time is a serious condition which in most cases will be due to lack of proper stores control. The analysis of down time, therefore, no matter what the cause may be, is of utmost importance to top management. It follows that lost production time is important to the various divisions of the factory that may directly or indirectly cause it, since the lack of it may well be a measure of that department's efficiency.

The idle time report is made daily on a simple form which has printed on it all the possible causes of down time. Spaces are provided to enter the number of bushing hours of down time plus hours operated, the total of which is balanced to the 24 hour figure.

Monthly these daily reports are summarized and the values of bushing hour burden applied.

A detailed summary report of hours and values by cause is made up along with an analysis of same for the perusal of management.

The development of idle plant costs and the subsequent accounting treatment under a standard cost system are quite easy.

As shown above, Standard Burden Rates may be established for fixed burden charges. This times the number of measured units of down time equals total costs of idleness for the period. It is important to segregate the costs of idle plant due to lack of orders from that controllable by the plant. These two broad divisions of idle time costs are necessary for book treatment since the disposition of idle capacity losses may vary. Normal and scheduled idle time losses should be absorbed in product costs via cost of sales. Abnormal, unscheduled and non anticipated losses of this nature should be absorbed and treated as non operating losses and as such appear on the profit and loss statement. In this group would be losses due to economic reasons, major breakdowns, fire and possibly down time created by strikes.

Every plant has idle time for one cause or another and when the cost of it is developed by Cost Accountants it may be surprising. An analysis in detail of this volume variance as it is familiarly known in cost accounting parlance will be most valuable to management as another tool with which to reduce expense and to increase productive effort.

Standard Budgets for Factory Management

By GILBERT R. BOUTIN

> **How many firms are employing standard accounting methods? Many firms have standards partially installed and functioning. Yet, the percentage of complete standard accounting records is surprisingly small. Not more than 10% of the businesses in any locality, say any city, or any town, employ standards to the fullest advantage. Here you may read about some of the procedures that might provide those fuller advantages and control of operations.**

The primary purpose of a manufacturing expense budget in a plant operating under a standard cost procedure is to aid management in the control of expenses. The secondary purpose, which is nearly as important, is to establish Burden rates which can be applied to the Direct Labor standard in the establishing of a standard cost per unit. This cost is used for inventory control and as an aid to the Sales Department in price fixing.

The essentials necessary for preparing a budget are:—

(1) Sales volume expectations.

(2) Expenses necessary for manufacturing quantities sufficient to meet sales requirements.

For purposes of discussion in this paper it will be assumed that the sales forecast has been established and that the plant capacity is sufficient to meet these requirements.

In budgeting expenses, consideration should be given to two factors. The first, if the product is a highly competitive one and must be manufactured at a fixed cost in order that a sufficient margin of profit will be made, is that the expense budget must not be in excess of the difference between the Direct Labor standard and the total desired cost. When this condition exists, the expenses must be carefully reviewed with each supervisor so that he will have had a definite part in the establishing of the budget as to its reasonableness and, therefore, he can be held responsible for the expenditures. If on the other hand, the product is manufactured on special orders and the expenses of a department are continuous regardless of the number or types of products manufactured, then it is necessary that the expenses are budgeted with the important consideration being their absorption. In either case, the super-

visor should be made to feel that the allowance is a fair one, and if he is unable after a reasonable trial to meet the budget, then recourse may be had to the budget director; otherwise the foreman acquires an antagonistic attitude toward the budget. A well-prepared budget based on accurate forecasts will show gains as well as losses. This becomes an added incentive to the foreman to constantly strive for improvement.

In order that the budget allowances will not conflict with the over-all financial progress of the company, the budget expenses of all the departments by general classification should be presented to the chief financial officer of the company for his final approval.

The plant should be divided into departments, or centers, where expenses can be accumulated and the responsibility for them assigned to a supervisor. Each of these departments will have an individual budget based on its position in relation to the over-all production requirements and expense allowances. The departments' expenses should be classified by their behavior: Controllable—those varying with volume; Fixed—those expenses whose total remains constant irrespective of production volume. The major Controllable Expense classifications are:—

(1) Indirect Labor—labor which can not be assigned to a particular product.
(2) Indirect Supplies—various shop and office supplies.
(3) Service Department Charges—Machine Shop and Millwright charges to the department.
(4) Miscellaneous Expenses — telephone charges, travel charges, etc.

Past experience and estimates by the Purchasing Department as to price increases or decreases in supply costs, discussions with the foremen as to labor requirements, and the establishing of a service department rate, which is described in detail later, are necessary steps in the budgeting of Controllable Expenses.

In the review of past experience, consideration should be given to unusual costs of a non-repetitive nature. There must be eliminated from computation of trends. Similarly, gains caused by low maintenance and repair charges should be carefully investigated to determine if the gains are due to management decisions not to make repairs at the present time, or whether they are due to increased efficiency of the machinery.

In the same manner large losses must be examined carefully to decide if a larger allowance should be made because of increased use of the machinery or, again, if management decisions alone have affected the excessive repair charges. Increase or decrease in budget allowances should be made only after careful analysis of these conditions.

Fixed expenses are more easily ascertained, as they include items such as foremen's salaries, depreciation, taxes and redistributed expense departments as explained in detail later. These amounts can usually be obtained from the Payroll Department and the General Accounting Department.

The production requirements necessary to meet the sales forecast must be broken down into the individual department's production requirement, after giving consideration to scrap allowances and rework. This budgeted production must be multiplied by the standard labor allowance, the product then being the standard labor base for computing Burden rates. The Controllable Expenses are then totaled and the Controllable Burden rate is computed by dividing the Controllable Expenses by the standard labor base. The Fixed Burden rate is computed in the same way. The above procedure is repeated in all operating departments.

The service department's budgets (Machine Shop, Millwright or Maintenance Department) are prepared in the same manner as operating department budgets. However, it is not necessary to compute Burden rates, as their expenses must be absorbed by the operating departments' Controllable Expense, for which an allowance has been made under classification 3 in their Controllable Expense budget. Therefore, an hourly charge rate must be established which will be sufficient to absorb the expenses of the service departments. This is done by estimating the total number of chargeable labor hours in a month. The expenses, Controllable and Fixed, plus estimated chargeable labor, divided by this figure is the standard charge made per hour for service rendered to operating departments.

Expense departments such as Storehouse, Factory Expense, Light, Heat, Power and General Buildings, some of which are not physical cost centers, are merely book centers used for the accumulation of expenses which are later redistributed to operating departments. Budgets must be prepared for these centers as actual operating and service departments. Expenses are esti-

mated in the same manner. As an illustration: a typical budget for Heat Department includes such items of Controllable Expense as firemen labor, coal, supplies such as shovel, buckets, etc., and millwright expenses, as well as the usual fixed charges of salaries, depreciation and taxes.

The total costs of each one of these expense departments is then distributed to the Fixed Expense of the operating departments on the following basis: Light—department's total wattage; Heat—total radiation; Power—total motor capacities; General Buildings—total floor space occupied. The above basis for distribution is the accepted procedure in most budgets. Factory Expense, which includes such expenses as production control section, weighers, general office clerks, all supplies not allocated to a specific department, machine shop and millwright repairs, superintendents' and general foremen's salaries, and similar expenses, is distributed to operating departments on the basis of the standard labor base of the department which was used for computing Burden rates plus the total Controllable Expense allowance. The underlying theory being that the operating departments receive the benefit of this expense department in relation to the size of the department which is indicated by the amount of Direct Labor, and the supervision necessary to control the expenses of the department which is revealed by the total Controllable Expense allowance.

The expense departments' cost is included in the Fixed Expense of the operating departments on the theory that regardless of production, these expenses must be absorbed by the operating departments. They are in effect a necessary evil.

The above procedure is not detailed, but covers the essentials necessary to prepare an operating budget of manufacturing expense. However, unless an adequate analysis of these expenses is made periodically by the Budget Director and a comparison made between past performance and anticipated results in the future the budget becomes merely of historical value. This analysis must be presented to management in a form that is not only revealing, but is interesting as well. Unless it is desired to prepare numerous reports for different individuals, for example, operating department detailed reports for the foremen, section reports for the general foremen, division reports for the superintendents, as well as company or product reports for factory man-

agers, the following style of report should fulfill the needs of all of the aforementioned supervisors.

The Monthly Analysis of Burden Gains and Losses is prepared in two parts. Part I consists of a tabulation style of report which shows by individual expense classification the expenses of the current month, the budget allowance of the current month and the gain or loss for the month. Columns are also provided for the total expenses to date, total budget allowance to date and the total gain or loss to date. This allows the supervisor of the department, section or division an opportunity to view the trend for the year to date as well as the result of the current month. This report is prepared for each operating department and expense department as well as each service department. The total expense of each of these departments is accumulated by classification and a report of results of the entire plant for the month and period to date is prepared. The report is distributed by means of a form transmittal sheet which lists the foreman's name, department, period covered and sufficient space for comments. This space is used by the foremen for requesting additional information concerning any particular charges. The Budget Director is responsible for further analyzing any losses and returning this sheet to the foremen with full particulars.

The report is easily prepared if a punched card accounting machine system, as well as a perpetual inventory punched card system, is used. Otherwise, this information must be accumulated manually and some type of duplicating machine used so that sufficient copies can be prepared. Each foreman should receive a copy of his department, each general foreman, copies of the departments over which he has control, and superintendents should receive copies for their divisions. The report of the plant as a whole is furnished the factory manager together with Part 2 of the report. This section consists of a narrative form of interpretation of the results of departments which have shown abnormal gains or losses for the period. As time is an important factor in the control of some of these expenses, it is not sufficient to merely state that certain losses have taken place, but the reasons for the loss and any preventative measures which the department has taken should be explained. The decision then is with the factory manager whether he must further investigate these losses or gains or that sufficient precautions have been taken already. This is not as difficult a part of the report as it

would seem at first glance, because if the budget has been prepared with the cooperation of the foreman, he has a knowledge of any unusual expenses which have occurred in his department and is very anxious to cooperate in explaining the reasons for the losses. A further improvement can be made by furnishing each department with a form for reporting unusual expenses which the foreman knows is not provided for in his budget. By using this report as a memorandum during the month and forwarding this to the budget department at the close of the month, the Budget Director's task is considerably lightened. By the use of these two parts of the monthly report of Burden Gains and Losses, a strict control of expenses is maintained.

In the above, emphasis has been placed on the management control of expenses which, as was stated previously, is the primary function of a manufacturing expense budget. The accountant, however, must still maintain his accounting controls and the bookkeeping function of balanced debits and credits. The budget described is commonly called a "flexible budget", that is, the budget allowance varies in relation to the production. In periods of high productivity the standard budget allowance will increase in direct proportion because this allowance is computed by multiplying the standard labor earned by the Controllable and Fixed Burden rates. The allowance for Fixed Expenses increases, but as the actual cost does not, the variance becomes an over absorption of Fixed Expenses. Management must offset against this gain the added cost of overtime payments and make estimates as to the extent of accelerated depreciation cost. The Controllable Expense allowance increases, but the actual expenditure also should increase in somewhat the same proportion. As it is desired for the reports outlined above to show the gains and losses by individual expense classifications, the total Earned Burden must be prorated to the items of indirect labor, supplies, service department charges and miscellaneous expenses. This is done by computing percentages which allow the same ratio as the original basic budget.

The Monthly Analysis of Burden Gains and Losses which is prepared for the management, also serves as the Cost Accounting Department's expense ledger. These can be bound and kept as a permanent subsidiary ledger. These ledgers are reliable sources of information for future budget planning.

In a standard cost system, the inventories are charged with

the standard cost of production and the variances later must be distributed to the products for final financial reports of profit and loss. In order to maintain perpetual inventory control, the inventories are charged with standard Burden expenses as well as with standard Direct Labor. It is, therefore, necessary to relieve the inventories with the products' standard value when they are sold. This is accomplished by preparing product operational route sheets. The standard Burden rate of each department processing the product is applied to the standard Labor allowance per operation in addition to standard Scrap allowances. By combining these operations costs a total unit value is determined. This unit value is multiplied by the quantities finished and is used as the basis for relieving the Work in Process Inventory and charging Finished Goods Inventory. As sales are reported the packing and shipping costs are added to these quantities and this new unit cost is charged to Cost of Sales, the credit being to Finished Goods Inventory.

The Sales Manager should be made to realize the accuracy of the standard cost of a unit under a budget program as illustrated. He will then be more confident in the cost submitted to him for use in his over all price fixing procedure.

The Budget Director is a very important part of the success of a budget program. He must have an intimate working knowledge of all the manufacturing operations in the plant. He must be familiar with the over all financial program of the company and have the confidence of the staff officers. Above all, he must have the complete cooperation of every supervisor from the general superintendent down.

A company operating under the budget procedure as outlined above would be able to maintain adequate control of its manufacturing expenses as well as fulfill its financial obligation in the valuation of its inventories.

« STUDENT SECTION »

GENERAL ACCOUNTING

Comments by J. D. CAMPBELL, C.A., R.I.A.

ACCOUNTING I

QUESTION 4 (10 marks)

You are given by the wholesale firm of Jones and Company the following information relative to their operations for the twelve month period to January 31, 1949.

	Fruits	Groceries
Inventory—Feb. 1, 1948	7,926.50	15,453.25
Purchases for year to Jan. 31, 1949	135,679.43	395,972.53
Freight in for year to Jan. 31, 1949	8,446.91	19,793.25
Sales for year to Jan. 31, 1949	155,297.86	426,473.29
Inventory—Jan. 31, 1949	6,495.76	21,496.82

Required:

(1) Prepare in columnar form, a statement of gross trading profit by departments and for both departments combined.

Solution

(1)

Jones and Company
Departmental Trading Account
for the year ended 31st January, 1949

	Fruits	Groceries	Total
Sales	$155,297.86	$426,473.29	$581,771.15
Less cost of sales			
Inventory February 1948	7,926.50	15,453.25	23,379.75
Purchases	135,679.43	395,972.53	531,651.96
Freight on Purchases	8,446.91	19,793.25	28,240.16
	$152,052.84	$431,219.03	$583,271.87
Less inventory 31st January, 1949	6,475.76	21,496.82	27,992.58
	$145,557.08	$409,722.21	$555,279.29
Gross trading profit	$ 9,740.78	$ 16,751.08	$ 26,491.86

(2) Fruit 6.3%; Groceries 3.9%; Total 4.6%.

(3) The operating expenses will be recorded on the books of Jones and Company under separate expense accounts not departmentalized for each type of expenditure and at the end of the accounting period a memorandum expense distribution sheet will be prepared showing the individual non-

departmentalized expenses basis of distribution and allocation of each expense as between the two departments.

In determining the basis of allocation care must be exercised that the basis used is not arbitrary but bears a distinct relationship as between the nature of the expense and the departments concerned.

The memorandum information will be transferred from the expense distribution sheet to the operating statement in determination of the net operating profit for each department.

Comments

The first and second sections of the question were answered very well in most cases with the majority of errors being mechanical in nature. The third section of the question indicated an incorrect interpretation as to the exact requirements in most of the cases. This may have arisen due to a failure to read the requirements of the question carefully or an alternative interpretation in that the answers submitted covered the interpretation of the net trading profit of the separate departments rather than the accounting procedure.

"Jones and Company may continue in the same columnar form as shown above to the point of finding the Gross Trading Profit to finding the net trading profit."

"Treat each department in columnar form as you would in finding an operating statement for a one or department company but of course using the two columns. Continue on down as shown above by showing the selling and administrative expenses which when substracted from the Gross trading profit we will arrive at the Net trading profit."

QUESTION 5 (20 marks)

In the firm of Jones & Company referred to in question 4

(1) Director A recommends that all cash receipts be balanced up each day with a mechanical cash register tape, that a cash over and short account be operated, that the exact amount of cash received be deposited daily and that all disbursements be made by cheque.

Director B argues that much of this is unnecessary, that it is sufficient to enter up as cash sales the amount found to be in the cash register at the end of the day (over and above the change which was placed there at the beginning of the day), that it is quite satisfactory to make small disbursements out of the cash register drawer and that enforcement of a rule that all disbursements be made by cheque would create an unwarranted nuisance.

(2) Director A advocates operation of the two separate purchase accounts and two separate sales accounts but Director B opposes this on the grounds that nothing is accomplished that warrants the additional expenditure of time and labor.

As the accountant for Jones and Co., with which Director's views do you agree in each of the above cases and give your reasons.

Solution

(1) Most accountants would agree with Director A's views in that the safeguards advocated by him are necessary for effective control by

management of the business finances. If a proper routine as to proper recording of transactions is not insisted upon *at the time they take place*, it is much more difficult for management to exercise effective control.

The requirement that all cash received be deposited intact daily and that all payments be made by cheque places certain definite restrictions on the amount of cash available and the use of cash which in turn limits the possibility of defalcations. The assumption that an imprest petty cash fund would be operated out of which sundry payments would be made was a necessary deduction where all payments are made by cheque.

(2) Most accountants would agree with Director A's views.

If it is desired to exercise effective control by central management over the separate departments it is necessary to determine whether or not an adequate mark-up is being realized from sales made in each of the separate sub-divisions of the business. The most effective method of accomplishing this is the operation of separate departmental purchases and sales accounts. The additional expenditure of time and labor is very slight representing merely the carrying of two additional accounts in the general ledger and the arrangement of the books of entry to provide the necessary information.

Comments

The answers submitted to the questions were fair with little difficulty encountered as to choice but more difficulty in indicating clearly the reasons underlying the choice made.

The failure in the information given in question 5 (1) to indicate that sundry disbursements were to be made from a petty cash fund which in turn was reimbursed periodically by cheque tended to lead some to favour B's views in this respect. Correspondingly if all cash were deposited the question was raised as to a change fund. This literal translation of the information given was not prevalent but it did appear. The student who took this stand was not too severely penalized providing he carried through his line of argument logically. The failure on the part of the student to cover all of the aspects of the question resulted in an incomplete answer and certain penalties were imposed.

In answering question 5 (2) a fair proportion of the students were led astray by the cost involved in maintaining departmental records which indicated an appreciation of what was actually involved in departmental records.

"While the operation of two separate sets of accounts would enable you to distinguish between non-profit purchases and sales the additional cost involved would hardly warrant the time that would be saved."

Certain students also indicated a lack of understanding as to what departmentalization involved as evidenced by the following.

"Having two separate purchase accounts and two separate sales accounts would cause the accountant much more work. Separate columns for each department in the purchase book and separate columns for each department in the sales book would remedy this argument. Separate columns in each book of original entry would keep both accounts apart and only one book of original entry would be needed."